



Barracuda Backup Service



Administrator's Guide

Version 4.0

RECLAIM YOUR NETWORK™

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Chapter 1

Introduction

This chapter describes some of the features of the Barracuda Backup Service and the interfaces that you can use to interact with it.

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Features of the Barracuda Backup Service

The Barracuda Backup Service provides a comprehensive way to back up your data. It includes backup software, storage and replication in one solution. It employs a powerful deduplication technology to reduce the backup storage footprint. It is easy to use, reliable and affordable.

Barracuda Cloud Storage

Barracuda Cloud Storage subscription plans provide diverse offsite storage that scales to meet your changing data requirements. Barracuda Cloud Storage includes secure backup to two separate data centers. Storage is allocated in 100 gigabyte increments and is all disk-based.

Site-to-Site Replication

You can choose to install multiple Barracuda Backup Servers that can synchronize data amongst themselves on an ongoing basis. These Barracuda Backup Servers may be installed in multiple geographical areas to increase the reliability of the data storage. Each Barracuda Backup Server can send data to one or more other Barracuda. Only models 490 and higher can receive data from other Barracuda Backup Servers.

Site-to-site replication provides secure backup to the number of data centers that you implement. You can also choose to backup data to a combination of Barracuda Backup Servers and Barracuda Cloud Storage.

Deduplication for Backup Efficiency

The Barracuda Backup Service employs certain techniques to decrease the amount of bandwidth required to perform backups, keep backup windows as short as possible, and reduce your storage costs. For example, after the initial backup of your computers is complete, the Barracuda Backup Server targets added, changed, or deleted data only, skipping files that have previously been backed up and are unchanged.

In addition, Barracuda Networks has developed an innovative deduplication method of "bit differential analysis" that breaks backed-up data into parts, which are then fingerprinted and compared to all parts on record. Unique binary data parts are kept. Duplicate parts are catalogued in a database for reference and then discarded. For example, if two of your servers share some data, then only one copy of that data is stored in each Barracuda Backup Server.

In order to perform deduplication, the Barracuda Backup Service breaks files down into parts that are no larger than 1 megabyte in size so that they can be analyzed and compared. Those parts are AES 256-bit symmetrically encrypted and each part has its own encrypted key. The parts are stored in their encrypted state in the backup location and remain encrypted until a restore is requested.

Rate Limit

The Barracuda Backup Service enables control over the rate at which data is replicated to the other back up locations throughout the day. The rate control feature provides for the preservation of Internet bandwidth during peak usage and optimizes offsite backup transfers during daily non-peak hours.

Microsoft Application Support

The Barracuda Backup Agent provides the ability to back up these Microsoft server applications: Exchange, SQL, Hyper-V, System State and Sharepoint. In each case, a full restore of these environments allows an organization to recover in the event that their environment has been corrupted or destroyed. Additional restore options allow Exchange to be restored to a recovery group or database or for Exchange or SQL to be restored to a flat file. The Barracuda Backup Agent also provides support for open file backups and file attributes and permissions.

Email Message-level Backup

The message-level backup of email feature stores every email message from each user mailbox at the time of backup. If messages are accidentally deleted or corrupted they can be quickly located and restored. Individual email messages, entire folders of emails, or all of the emails for a specific user can be restored to the email server without having to restore the entire server. The restored emails can be sent directly back to their original location in the user's mailbox or to an alternate location. You can view individual messages that were backed up on a certain date using the Barracuda Backup Service Web interface.

Message-level backup of email is not for use in a disaster recovery situation. This feature should be used in conjunction with full backups of the email system to provide both convenience and complete protection.

Security

There are a number of different security features provided by the Barracuda Backup Service. These are described in *Securing Your Backups* on page 39.

Data Retention Policies

The Barracuda Backup Service provides a configurable and flexible data retention policy based on a traditional grandfather-father-son snapshot rotation model.

Web Interface for Management

The Barracuda Backup Service and the individual Barracuda Backup Servers are managed by an easy-to-use Web-based interface.

Restore-Focused

The Barracuda Backup Service provides multiple ways to restore your backed-up data. You can restore single files, individual email messages and entire systems.

Standard Network Protocols

The Barracuda Backup Service can use standard network protocols like CIFS and SSHFS.

Interfaces

There are three administrative interfaces to the Barracuda Backup Service:

- The hosted Web interface of the Barracuda Backup Service,
- The local Web interface for the Barracuda Backup Server, and
- The administrative console for the Barracuda Backup Server.

The Barracuda Backup Service Interface

This is the primary interface you will use to manage all of your linked Barracuda Backup Servers and everything associated with backups.

To access the Web interface of the Barracuda Backup Service, log into your Barracuda Networks account and click **Backup Service** at the top of the screen.

The Web Interface for the Barracuda Backup Server

Network settings for the Barracuda Backup Server can be configured remotely using its Web interface. You can also reboot or shut down the system, or open a tunnel that allows access by Barracuda Networks Technical Support.

To access this interface, type the IP address of the Barracuda Backup Server in a Web browser. Log in using your Barracuda Networks account.

The Administrative Console

Use the administrative console to specify network settings on the Barracuda Backup Server at setup.

Plug a keyboard and monitor into the Barracuda Backup Server to use this interface.

Chapter 2

Backup Deployment Options

This chapter describes the Barracuda Backup Service deployment options. It includes the following topics:

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<i>Deployment Options</i>	<i>11</i>

Deployment Options Overview

The Barracuda Backup Service includes a full local data backup, which is performed by the Barracuda Backup Server, and multiple options for offsite data storage. The local backup can be sent to the Barracuda Cloud Storage, which replicates data at two offsite locations, or one or more other private Barracuda Backup Servers for site-to-site replication. Or, a hybrid approach may be taken where the data is sent to a combination of the Barracuda Cloud Storage and one or more Barracuda Backup Servers. All of these approaches provide the best of both worlds – onsite backups for fast restore times and secure offsite storage for disaster recovery.

Deployment Options

In all deployment scenarios, the Barracuda Backup Server is positioned between the firewall and the systems to be backed up, and the data from your client and server systems is first backed up to the Barracuda Backup Server.

As shown in *Figure 2.1*, the data can then be backed up again to:

- Barracuda Cloud Storage, which is maintained by Barracuda Networks.
- One or more Barracuda Backup Servers, which ideally would be located in different sites. This option is called site-to-site replication.
- Or even a combination of the two.

Figure 2.1: Backup Options

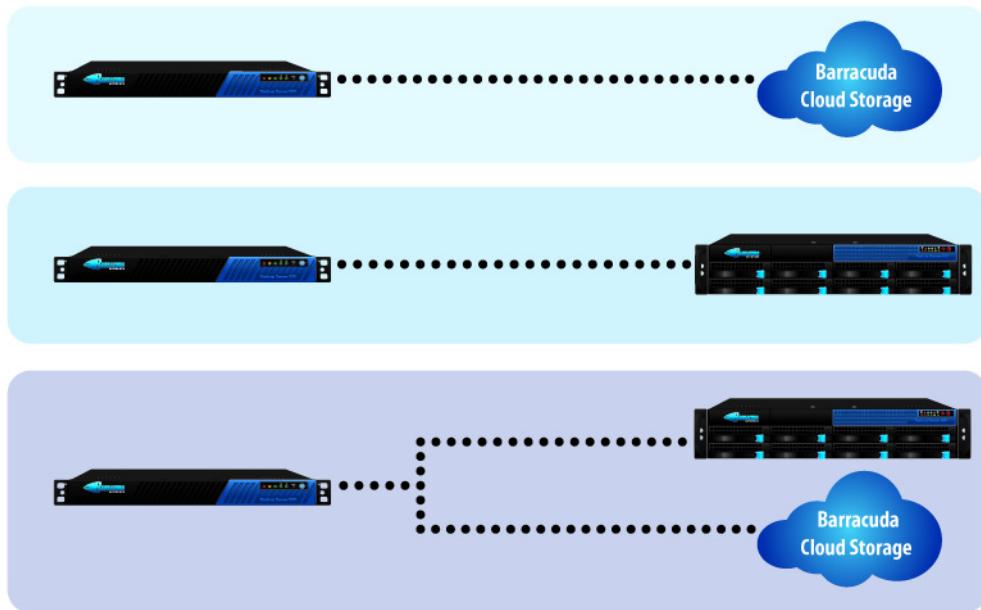


Figure 2.2 shows an example of site-to-site replication, where a Barracuda Backup Server acts as a backup to three Barracuda Backup Servers. Each Barracuda Backup Server can send data to one or more other Barracuda Backup Servers. Only models 490 and higher can act as a back up to other Barracuda Backup Servers, although any model can send data to a Barracuda Backup Server.

Figure 2.2: Site-to-Site Replication

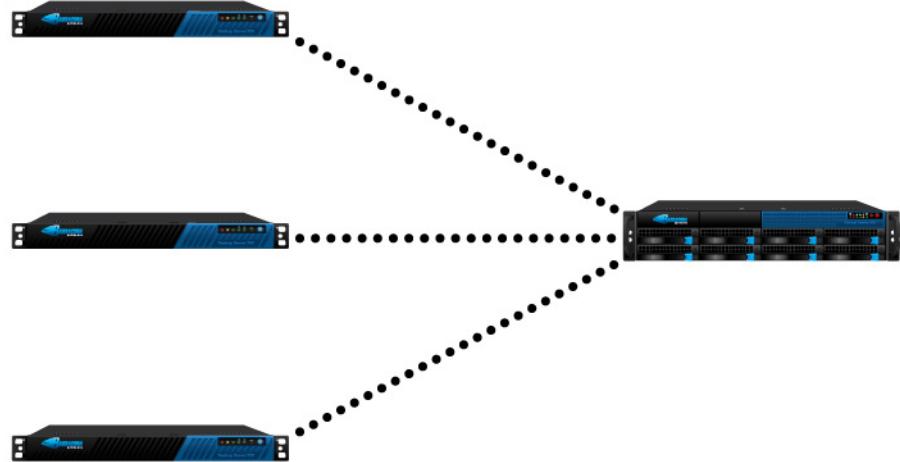


Figure 2.3 shows the Barracuda Backup Server located in a network and its backups being stored on the Barracuda Cloud Storage.

Figure 2.3: Using Barracuda Cloud Storage

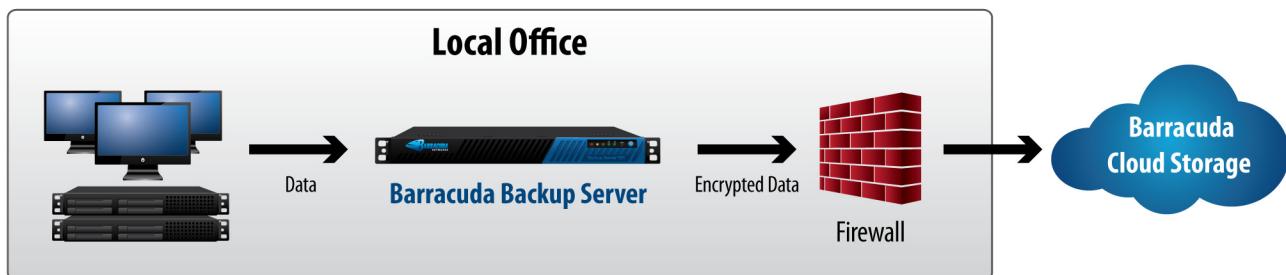
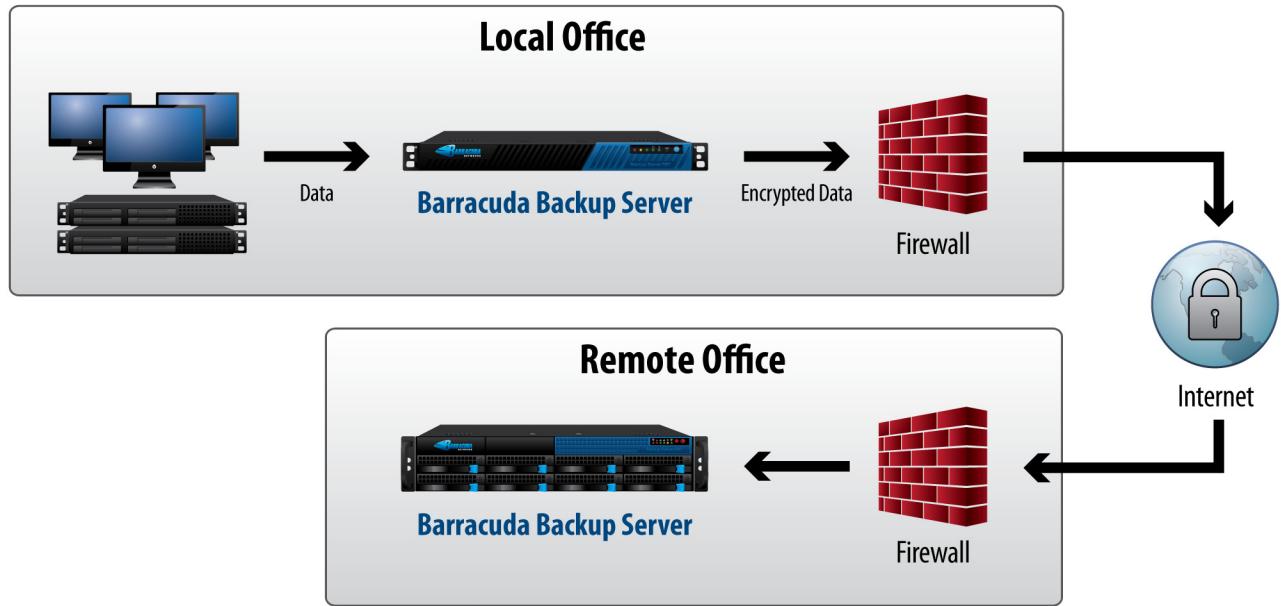


Figure 2.4 shows a Barracuda Backup Server storing its backups on a Barracuda Backup Server located in a different office.

Figure 2.4: Site-to-Site Deployment



Chapter 3

Getting Started

Use this chapter as a guide to installing your Barracuda Backup Servers and linking them to the Barracuda Backup Service.

Installation 16

Installation

Before installing your Barracuda Backup Server, verify that you have the necessary equipment and information:

- Barracuda Backup Server (check that you have received the correct model)
- AC power cable
- Ethernet cables
- VGA monitor (recommended)
- PS2 keyboard (recommended)
- Barracuda Backup Server serial number and linking code (on both the side of the Barracuda Backup Server and the included Quick Start Guide)
- Connectivity and access information for servers to be backed up

Physically Installing the Barracuda Backup Server

1. Fasten the Barracuda Backup Server to a 19-inch rack or place it in a stable location.
2. Connect an Ethernet cable from your network switch to the Ethernet port on the back panel of the Barracuda Backup Server.
3. Connect the power cord, VGA monitor, and a PS2 keyboard to the Barracuda Backup Server.
4. Press the POWER button on the front panel to turn the unit on.

Configuring Your Corporate Firewall

If the Barracuda Backup Server is located behind a corporate firewall, you may need to open the following ports to allow communication between the Barracuda Backup Server and the Internet.

- Ports 1194 and 5120-5129 outbound for both TCP and UDP traffic. The ports are used to transfer data to either Barracuda Cloud Storage or to another Barracuda Backup Server over the Internet.
If you would like to restrict the outbound network traffic on these ports to Barracuda Cloud Storage, contact Barracuda Networks Technical Support for a list of the IP addresses to allow.
- Ports 80 and 443 outbound for TCP traffic. The Barracuda Backup Server uses port 80 as a fail over in the event that port 1194 is closed.

Configuring the IP Address and Network Settings

By default, the Barracuda Backup Server is configured to obtain an IP address on your network using DHCP. If you want to assign it a static IP address instead, you can configure it using the console administration interface. If not, skip the following steps.

To configure the Barracuda Backup Server to use a static IP address:

1. Connect a monitor and keyboard to the Barracuda Backup Server.
2. Use your arrow keys to highlight the **DHCP/Static** field.
3. Using the spacebar select **Static** for your IP address assignment preference.

4. Enter the IP Address, Netmask, Default Gateway, Primary DNS Server and Secondary DNS Server (optional) as appropriate for your network.
5. Click **Enter** on the **Commit Changes** box.

If the Barracuda Backup Server is not able to connect to the Internet using the assigned address, it will switch to Smart-mode. When in Smart-mode, the Barracuda Backup Server discovers an unused IP address in its subnet and uses that address. This is intended to be a temporary measure of establishing network connectivity. Once the connectivity issue is resolved, the DHCP/Static field should be changed to DHCP or static IP address using the console administration interface.

The LAN and Internet boxes on the console administration interface will be green when the Barracuda Backup Server is determined to be online. The Barracuda box will remain red until it is linked to an account later in the installation process.

Creating an Account

You must have a Barracuda Networks account to use the Barracuda Backup Service. If you already have a Barracuda Networks account, skip to the next step.

If you do not already have an account, follow these steps:

1. Go to the following URL:

<http://login.barracudanetworks.com>

2. Complete the fields on the **Create New Account** page and click **Submit**.

Linking Your Barracuda Backup Server to an Account

Your Barracuda Backup Server must be linked to your Barracuda Networks account before you can initiate data backups.

To link your Barracuda Backup Server to your Barracuda Networks account:

1. Go to this URL:

<http://login.barracudanetworks.com>

2. Sign in with your **Username** and **Password**.
3. If the Barracuda Backup Service is your default or only Barracuda Networks product, then the Barracuda Backup Service Web interface appears. If not, click **Backup Service** at the top of the screen.
4. Click **Start Backup Service Setup**, and then select the **STATUS** tab.
5. Click **Link a Barracuda Backup Server**.
6. Enter your **Serial Number** and **Linking Code** from the sticker attached to the Quick Start Guide that shipped with your Barracuda Backup Server. These values are case sensitive. The Serial Number can also be found on a sticker on the back of the unit. Follow the on-screen prompts to complete linking and to supply your account information.

The linking process could take a few minutes to complete. Wait until the **STATUS** page appears, indicating that the Barracuda Backup Server was successfully linked to your account. A green light next to the Barracuda Backup Server on the **STATUS** page indicates that your Barracuda Backup Server has successfully connected.

Chapter 4

Configuring Backups

This chapter describes how to configure backups of your data.

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<i>Steps to Backing Up Data</i>	23

Overview of Backup Configuration

You can configure where your data is backed up and in what manner. This document refers to *data sources*, which are subsets of data on each server that is to be backed up.

Where Data is Backed Up

Following the steps in this chapter, you will configure how and when your data is to be backed up. All data is first backed up to a local Barracuda Backup Server. If you have more than one local Barracuda Backup Server, you will have to decide which one backs up which systems.

Data on the local Barracuda Backup Server can be then backed up, or replicated, to another Barracuda Backup Server in a remote location, to the Barracuda Cloud Storage, or to a combination of the two. See *Site-to-Site Replication* on page 29 for more details on the first option. The location of the replicated data is specified for each data source. You can choose to not replicate the backed-up data at all.

Options for Backing Up Data

Choose the method for backing up data based on the type of data. The Barracuda Backup Server supports the following data types:

- Microsoft Exchange storage group backup
- Microsoft SQL
- Windows System State
- Network file shares
- Message-level backup of Exchange and GroupWise Servers

Review the following sections for more about specific data types.

Microsoft Server Applications

The Barracuda Backup Agent provides application aware backups for Microsoft SQL Server, Microsoft Exchange Server (including message-level backup of mailboxes and messages), Microsoft System State, and Microsoft Hyper-V Server.

The Barracuda Backup Agent also provides support for open file backups and file attributes and permissions.

Data sources that can be backed up using the Barracuda Backup Agent are automatically detected after the computer has been identified on the **BACKUP > Sources** page and the Barracuda Backup Agent is installed on that computer.

You should install the Barracuda Backup Agent on every Windows server that you want to back up. The only exception to this is for Windows Server 2000, where file share back up is supported.

Microsoft Exchange Storage Group Backup

The Barracuda Backup Agent for Microsoft Exchange Server provides a full backup of the Exchange storage group. An Exchange storage group is a container for your email database and its associated system and transaction log files.

Microsoft Exchange uses transaction logging to commit new and changed data to the database, and to ensure that records of the transactions exist if a store is damaged between backups. The Exchange storage group, and its associated transaction logs, is the most important data to back up on your Exchange Server to ensure your email database is available in the event it becomes damaged or unrecoverable. If you must rebuild a server, you can use the latest transaction log files plus the last full backup to recover your database.

The Barracuda Backup Agent for Microsoft Exchange Server backs up and restores the entire storage group; it allows for the storage group to be restored to a storage group or to an alternate Microsoft Exchange Server.

Microsoft SQL Server Backup

The Barracuda Backup Agent provides a complete backup of the Microsoft SQL Server including the master, user, model, msdb and pubs databases.

Barracuda Networks recommends that all of the Microsoft SQL Server user databases be configured for full recovery model so that transaction logs can be backed up. This allows you to restore a user database to any point of time that is contained within a transaction log backup.

Some versions of the Microsoft SQL Server, such as SQL Express database, do not support full recovery model. If the full recovery model cannot be used, the Barracuda Backup Agent will perform full backups of the database each time a backup runs.

The Microsoft article “Recovery Model Overview” provides more information about the Microsoft SQL Server and its three database recovery models, and how to change the recovery model of a database. The link for this article is:

<http://msdn.microsoft.com/en-us/library/ms189275.aspx>

Note



Do not use other methods of backing up Microsoft SQL Server databases, such as Microsoft or third-party utilities, when using the Barracuda Backup Agent. If you use more than one method of backing up the same database, one or more of those methods will cause the Microsoft SQL Server to truncate the transaction logs. This forces a full backup of the database every time, and can result in data that can not be restored.

Barracuda Networks recommends that you back up the master database each time it is changed. The master database contains configuration information that is required to restore an instance of SQL Server.

Windows System State Backup

The Barracuda Backup Agent can backup and restore the Microsoft Windows System State. Microsoft Windows System State backups allow backup of critical system related components, including the local Registry, COM+ Class Registration Database, the System Boot Files, Active Directory Database Files (NTDS.DIT) for Domain Controllers, and the SYSVOL folder. A System State backup can be used to recover to a known good system state after a hardware or software crash.

System State data might not include all of the information required to recover a system from a failure. Barracuda Network recommends that all boot and system volumes be backed up in addition to System State.

Message-Level Backup: Microsoft Exchange and Novell GroupWise

The Barracuda Backup Service connects directly to Microsoft Exchange and Novell GroupWise servers to back up individual emails stored within user mailboxes.

Other File Systems

Mac OS X, Linux/Unix, and Novell Netware systems are backed up using *File Share*. This method refers to the mechanism that uses standard network protocols, such as CIFS/Samba or SSHFS, to access your servers.

Steps to Backing Up Data

Perform these tasks to configure your data to be backed up.

1. Identify the systems to be backed up. Install the Barracuda Backup Agent on Windows systems and configure authentication for all systems.
2. Configure data sources.
3. Create backup schedules for all data sources.
4. Set retention policies.
5. Optional. Set up rate limits.
6. Optional. Set up exclusions.
7. Optional. Set watch files.
8. View reports on an ongoing basis. as needed.

Step 1: Identify Systems to be Backed Up

For each local Barracuda Backup Server, identify the data sources that are to be backed up. There may be more than one data source on each server, and each can have unique back up characteristics.

1. Go to the **BACKUP > Sources** page and select a Barracuda Backup Server.
2. For each computer to be backed up, click **Add Computer** to identify the computer.
3. **If this is a Windows system**, a link to download the Barracuda Backup Agent will appear on the **Add Computer** page. Follow the instructions to download and install the Barracuda Backup Agent software. When that is installed, the Barracuda Backup Server will try to connect to the Barracuda Backup Agent and display the data sources.

Alternatively, you can download the Barracuda Backup Agent software from the **SUPPORT > Software Downloads** page and install it on every computer to be backed up. You can configure the Barracuda Backup Agent using the Barracuda Backup Service Web interface.

You must have 1 GB of free space to install the Barracuda Backup Agent software.

If this is a Mac, Unix or Linux system, then follow the instructions on the **Add Computer** page to install a public key so that the Barracuda Backup Server will be able to securely connect to it. Then you can configure the data sources.

If this is a Novell Netware system, enter the system information on the **Add Computer** page. When that is done, on the **Add Data Source** page you will be able to specify the data location. CIFS or SSHFS is used to back up the Netware data.

For all systems: When you enter a set of user credentials on this page, the specified username will be used for network file systems and **must have at least read access** to the data you intend to back up. For Microsoft Windows and Novell Netware you will need to enter both a username and password. For Mac OSX, Linux and Unix (SSHFS) you'll only enter a username.

For Active Directory users it is customary to add the domain and then a \ in the username field. For example:

Username = **cuda\jsmith**

Step 2: Selecting Type of Data to Back Up

After a computer has been added, select the data source(s) to be backed up on that computer:

1. From the **BACKUP > Sources** page, click **Add Data Source** next to the associated device from which you want to back up.
2. On the **Add Data Source** page, select the appropriate data type.
3. Continue with the configuration information and save the changes.

Notes for the following data types on authentication and configuring the system to be backed up are provided below:

- *Backups for Mac OS X/Linux/Unix (SSH Connections)*
- *Directory Based File Shares*
- *Message-Level Backup: Microsoft Exchange and Novell GroupWise*

Backups for Mac OS X/Linux/Unix (SSH Connections)

The Barracuda Backup Service uses an SSH (SecureShell) client to access data contained on Mac OS X or Linux / Unix based computers running an SSH daemon. The SSH client uses public key cryptography to establish a secure connection to the SSH daemon.

You must configure SSH access to any Mac OS X or Linux / Unix computer you want to back up. Follow the on-screen instructions on the **BACKUP > Sources > Add Computer** page according to the operating system.

Directory Based File Shares

When you back up a file share you will need to specify the name of the share on the network before you can select the folders to be backed up. On a Windows machine, a share name can be a drive volume such as "C\$", or a folder and its associated subfolders such as "My Documents". **At a minimum you will need *Read* access to the data that you are backing up and *Change Access or Full Control* to the shares in order to perform a restore.** For Mac OS X and Linux / Unix based computers with SSH connections the share name should be the entire path to the directory you would like to back up, e.g. `/home/<user>`.

When you select folders for backup you should begin by selecting the folders at the top of the folder tree hierarchy, and then deselect folders lower in the hierarchy that you do not want to back up. You can also specify an optional exclusion rule, which is applied when the backup runs, to rule out files that don't meet your back up criteria. Refer to *Exclude Files from a Backup (Optional)*, page 26.

Message-Level Backup: Microsoft Exchange and Novell GroupWise

When you select the **Message-Level Backup** data type, you must supply the authentication information to access your mail server before you can select which mailboxes to back up. In addition to the authentication information provided on the Barracuda Backup Service Web interface, you must configure the Message-Level settings on your Exchange or GroupWise server.

For Microsoft Exchange servers, refer to "Exchange Message-Level Backups" on the **SUPPORT** page for detailed instructions for configuring message-level backups.

For GroupWise 7 and above, refer to "GroupWise Message-Level Backups" on the **SUPPORT** page for detailed instructions for configuring message-level backups.

Step 3: Create Backup Schedules

Now that you have configured your computers and data sources, you can create backup schedules, either individually or for all sources. If no schedule is created for a data source then it will not be backed up.

To create a backup schedule, go to the [BACKUP > Schedules](#) page of the Barracuda Backup Service Web interface. Click [Add a Schedule](#) and fill in the information on the [Add Backup Schedule](#) page

If the backup schedule is for Microsoft SQL or Microsoft Exchange, you must specify the type of backup to run:

- **Full** – This backup type performs a full backup of data, including the transaction logs.
- **Log** – This backup type only backs up the transaction logs which have been created since the last full backup.
- **Smart** – This backup type is a combination of the full backup and the transaction log backup. Barracuda Networks recommends this backup type for SQL and Exchange servers.

With the Smart Backup type, threshold values are used to determine when to switch between full and log backups. The minimum threshold value specifies how many days the Barracuda Backup Service continues to back up transaction logs before another full backup is run. After the minimum threshold value is met, the Barracuda Backup Service determines whether to perform another backup based on the binary data queue. If the binary data queue size exceeds 1 GB, the Barracuda Backup Service continues the transaction log backup until:

- the maximum threshold level is met, or
- the queue size drops below 1 GB.

Step 4: Create Data Retention Policies

Configure retention policies for data stored on a Barracuda Backup Server on the [BACKUP > Retention Policies](#) page. Be sure to configure retention policies for your data. Not doing so means that some unwanted data will be moved across the Internet and stored, causing unnecessary expense.

Data is retained based on a traditional grandfather-father-son (daily-weekly-monthly) rotation model. You can specify how long to keep daily, weekly, monthly and yearly backups by creating data retention policies. Multiple retention policies can be created for files, data backed up by the Barracuda Backup Agent (Exchange, SQL, System State), and email messages.

There are some template policies provided to assist you in creating your own retention policies. You can create one policy for all of the computers and data sources on a Barracuda Backup Server or multiple policies that each include some subset of the data.

When data is removed according to a retention policy, it is deleted from both the local Barracuda Backup Server and the offsite storage locations. Removed files that have been backed up using Network File Shares Protocol or SSHFS may be retained for a longer period of time, according to the configuration. Otherwise, once your data has been purged, it is gone forever. Purging applies to historic file revisions only; your current data will never be impacted by a retention policy.

Step 5: Modify Your Back Up Rate Limit (Optional)

Rate limits control the rate that data is replicated to the Barracuda Cloud Storage or other offsite storage locations. You can limit Internet bandwidth consumption during peak usage times and schedule backups for non-peak hours.

Your initial offsite backup may take on the order of days to complete but all of the data is backed up locally on the Barracuda Backup Server during this period. After the initial large transfer is complete, replicating your data offsite should complete with only a few hours of transfer each day. By default, the Barracuda Backup Service is configured to run full speed data transfers at night so that bandwidth is not affected while most people are at work. An alternate rate limit allows you to adjust the limit speed and time interval.

The length of transfer time it will take to get your data offsite is impacted by the compression and deduplication rates on your data, the uplink speed of your Internet connection, the amount of data that changes everyday, and any speed limits you apply to the Barracuda Backup Service.

To adjust the backup rate limit:

1. On the [BACKUP > Rate Limit](#) page, select a Barracuda Backup Server on the left menu and create or edit the rate limit.
2. You can specify a default rate limit and an alternate rate limit which is maintained only during the specified time periods.

The following table shows typical amounts of data that various Internet connection speeds support based on average storage efficiency and data change rates.

Table 4.1: Length of time to perform backup

Data Amount	Uplink Speed	Normal Initial Sync	Daily Change Sync
20 GB - 100GB	200 kbps (entry DSL, cable)	1-20 days	~ 1-8 hours
100 GB - 250 GB	512 kbps (mid range DSL, cable)	1-20 days	~ 1-8 hours
250 GB - 500 GB	768 kbps (premium DSL, cable)	1-20 days	~ 1-8 hours
500 GB - 1 TB	1.54 Mbps (T1 or equivalent)	1-20 days	~ 1-8 hours
2 TB and up	1 + #TB/2 Mbps (fiber, DS3, etc.)	1-20 days	~ 1-8 hours

Step 6: Exclude Files from a Backup (Optional)

Exclusion rules use regular expression pattern matching of directory or file names to define items that are not to be backed up. Common file exclusions include temporary files, music, movies and other files which are non-essential for business needs. You can add exclusion rules using the [BACKUP > Exclusions](#) page.

Step 7: Create Rules Watch Important Backup Files (Optional)

File watch rules are used to monitor and send email alerts when specified files have not been changed often enough or appear smaller than expected. For example, an administrator could choose to be alerted if third-party backup software fails to process dump files or if the dump files appear to be of insufficient size. Use the [BACKUP > Watched Files](#) page to add files to watch on a particular backup server.

The [ADMIN > Email Notifications](#) page allows you to specify the email addresses that will receive an email when files matching the parameters in a file watch rule are detected. The emails are sent to those users who are configured to receive alerts.

Step 8: Check Backup Reports

Look at the [BACKUP > Reports](#) page for detailed reports.

Chapter 5

Site-to-Site Replication

This chapter describes how you can configure one or more Barracuda Backup Servers to back up another Barracuda Backup Server.

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<i>Configuring Destinations</i>	29
<i>Specifying Data Replication Destination</i>	30
<i>Disabling a Destination Temporarily</i>	30
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Overview

As described in *Backup Deployment Options* on page 9, a Barracuda Backup Server can act as a backup to one or more other Barracuda Backup Servers. Each Barracuda Backup Server can send data to one or more other Barracuda Backup Servers.

Only models 490 and higher can act as a back up to other Barracuda Backup Servers, although any model can send data to a Barracuda Backup Server.

Data can be backed up to both a second Barracuda Backup Server and to Barracuda Cloud Storage. Data that is backed up on a second Barracuda Backup Server cannot be backed up yet again onto another Barracuda Backup Server.

Before Starting Replication

Make sure that your retention policies are configured before configuring replication. Otherwise you may waste bandwidth copying data that does not need to be replicated.

Verify Internet connectivity between the local and remote Barracuda Backup Server(s). Configuring a secure VPN connection between multiple Barracuda Backup Servers ensures the highest level of security possible

Configuring Destinations

Barracuda Backup Servers that are used to back up the data from one or more Barracuda Backup Servers are known as *destinations*. Data from one Barracuda Backup Server can be replicated to one or more destinations.

To configure where data is replicated from a Barracuda Backup Server, select the Barracuda Backup Server in the list and go to the **Backup > Replication** page. To add a replication destination, click the **Add a Target** link. You will have to have the serial number and replication code of the destination. These can be found by selecting the destination Barracuda Backup Server and looking at its **Backup > Replication** page.

Once a destination has been added, it will appear in the **Sending Data To** table. If it shows as online, that means that the two systems are able to communicate with each other.

Specifying Data Replication Destination

On the **BACKUP > Replication** page, there is a global flag to replicate all data to either Barracuda Cloud Storage or to Barracuda Backup Servers. If you want to send data from diverse sources to both of these options, then do not set that flag. Instead, edit each data source on the **BACKUP > Sources** page and specify where its data is replicated.

Disabling a Destination Temporarily

You can temporarily disable the site-to-site replication feature for one or more destinations. If it is disabled, nothing is sent from the Barracuda Backup Server to the destination until the feature is enabled or until 24 hours have passed. This allows you to move the destination system to a remote location, say, without getting backup errors. If the 24 hours pass without a manual re-enabling of this feature, the Barracuda Backup Servers will attempt to communicate with each other and, if successful, perform the back ups.

To disable site-to-site replication temporarily, go to the **BACKUP > Replication** page. In the **Sending Data To** table, click on the **Settings** link beside the destination Barracuda Backup Server. On the **Replication Target Settings** page there is a setting to disable data replication for up to 24 hours.

Loss of Communication to Destination and Queue Size

If there is a loss of communication between the Barracuda Backup Server and its back up destination for any reason, the data to be backed up will be queued and errors generated. Data will be queued until the issue is resolved.

The queue size in the table on the **BACKUP > Replication** page indicates how much data is waiting to be replicated. Not all of this data will actually be copied to the destination. Some of it will be deduplicated as the replication proceeds. Only those parts that are not already stored in the remote location will be sent over the Internet.

Chapter 6

Restoring Data

This chapter covers tools and procedures for restoring backed-up data.

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<i>Using the Restore Browser in the Barracuda Backup Server Web Interface</i>	32
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Restoring from Local and Offsite Backups

Data can be restored from the local Barracuda Backup Server, from a remote Barracuda Backup Server that has been used to replicate that system, or from the Barracuda Cloud Storage. Restores from the local Barracuda Backup Server offer the fastest restore times.

Multiple methods are available to restore your backed-up data:

- Restore Browser in the Barracuda Backup Service Web interface
- Barracuda Restore Tool for Windows
- FTP from Barracuda Backup Server
- FTPES from Barracuda Cloud Storage
- Windows WebDAV protocol from Barracuda Backup Server

You can restore single files, individual email messages and entire systems.

Restoring Data Backed up by the Barracuda Backup Agent

Data backed up by the Barracuda Backup Agent can be restored using the following methods:

- Restore Browser in the Barracuda Backup Service Web interface (recommended)
- Barracuda Restore Tool for Windows

Restoring File Share Data

File share data can be restored using any of the following methods:

- Barracuda Restore Tool for Windows (recommended)
- Restore Browser in the Barracuda Backup Service Web interface
- FTP from Barracuda Backup Server
- FTPES from Barracuda Cloud Storage
- Windows WebDAV protocol from Barracuda Backup Server

Using the Restore Browser in the Barracuda Backup Server Web Interface

The Barracuda Backup Server Web interface can be used to restore either data that was stored using the Barracuda Backup Agent or file share data.

This is the recommended way to restore data backed up by the Barracuda Backup Agent. You should know:

- Message-level data has to be restored to the computer from which it originally came.
- Data can be restored back to its original location or to another computer on your network. If restoring to another location, the Barracuda Backup Agent must be installed on that system.
- A functioning Barracuda Backup Server must be in place in order to restore SQL and Exchange databases.

Restoring file share data from the Web interface works well when you only need to restore a few documents, as only one document can be restored at a time. In addition:

- File share data cannot be restored to its original location. Use the Barracuda Restore Tool for Windows if this is required.

To restore data using the Restore Browser:

1. On the left side of the Web interface, click on the Barracuda Backup Server from which you wish to restore data.
2. Go to the **RESTORE > Restore Browser** page, select the computer and the associated data source that contains the files that you would like to restore, and follow the onscreen instructions.

Using the Barracuda Restore Tool for Windows

The Barracuda Restore Tool is a Windows-based client that allows you to restore data from your local Barracuda Backup Server, a remote Barracuda Backup Server, or from Barracuda Cloud Storage. The Barracuda Restore Tool:

- Is recommended if the Internet connection is unavailable and you have to restore data from local Barracuda Backup Server.
- Is the only method that can do offline restores.
- Will not restore message-level emails.
- Can restore data that was backed up by the Barracuda Backup Agent to an alternate location.
- Provides the option to include or exclude file attributes (metadata) permissions, created time, etc.

To run the Barracuda Restore Tool:

1. Download the Barracuda Restore tool from the **SUPPORT > Software Downloads** page and install it.
2. Go to **Start > All Programs > Barracuda > Restore Tool**
3. You can choose to authenticate to either Barracuda Cloud Storage or to a remote or local Barracuda Backup Server. Your account must have administrator rights to use the Barracuda Restore Tool. The username and password are the same as those used to access the Barracuda Backup Web interface.
4. Follow the on-screen instructions to select a source for the data to be restored and restore your data. If you restore the data back to the original location then file attributes will be retained. If the data is restored to an alternate location then the file attributes will be removed.

Restoring an Exchange Storage Group

The Barracuda Backup Agent for Exchange restores the entire Exchange storage group. It can restore to both the production storage group and recovery storage groups.

When an Exchange database is restored from a backup, the current database files are overwritten. To ensure that the production environment cannot be overwritten by the restore, rename the existing database files before you start the restore process.

Refer to the Barracuda Networks Knowledgebase Solution “How to use the Recovery Storage group feature for Microsoft Exchange with the Barracuda Backup Service?” at <http://www.barracudanetworks.com/kb?id=50160000000ICSF> for detailed instructions.

Restoring a Microsoft SQL Database

Restoring an SQL User Database

When you request the restore of a Microsoft SQL user database, the Barracuda Backup Service will perform all of the restores required to get to the desired date, as follows:

- Restore a full backup of the SQL Server database.
- Restore the incremental backups in the order in which they were created.

In other words, if you want to restore the database to a certain date, simply select the date and that database and the Barracuda Backup Service will restore all intermediate required database revisions.

To restore a Microsoft SQL User Database:

1. On the **RESTORE> Restore Brower** page, select the day and time from which you want to restore.
2. Select the data source from which you want to restore.
3. Select the database(s) to restore and click **Restore**.

Restoring an SQL Master Database

If the master database becomes unusable, it must be restored from a previous SQL Dump or backup. All changes made to the master database after the last backup or dump are lost when the dump is reloaded and therefore must be reapplied.

Refer to the Barracuda Networks Knowledgebase Solution “How do I restore a SQL database with the Barracuda Backup Service?” at

<http://www.barracuda.com/kb?id=50160000000IEEI> for instructions for restoring a SQL master database.

Restoring Windows System State

Restoring Windows System State should only be performed in a disaster recovery situation. Typically, this is if a server goes down and is not recoverable or if the configuration is severely corrupted.

For instructions for restoring System State for a Microsoft Windows 2008 server, refer to the Barracuda Networks Knowledgebase Solution “How can I perform a System State Restore from my Barracuda Backup Service on a Windows 2008 server?” at

<http://www.barracuda.com/kb?id=50160000000IV6G>

These instructions also describe how to restore System State on a Windows 2008 Active Directory domain controller.

For instructions for restoring System State for a Microsoft Windows 2003 server, refer to the Barracuda Networks Knowledgebase Solution “How can I perform a System State Restore from my Barracuda Backup Service on a Windows 2003 server?” at

<http://www.barracuda.com/kb?id=50160000000IV6B>

These instructions also describe how to restore System State on a Windows 2003 Active Directory domain controller.

Restoring Exchange and GroupWise Messages

Use the Barracuda Backup Server Web interface to view, search and restore Microsoft Exchange and Novell GroupWise messages. You can view all of the messages within a single mailbox or select multiple mailboxes to search for a text string.

To restore messages using the Restore Browser:

1. On the left side of the Web interface, click on the Barracuda Backup Server from which you wish to restore data.
2. Go to the **RESTORE > Restore Browser** page, select the computer and the associated data source that contains the messages that you would like to restore, and follow the onscreen instructions.

Using FTPES

FTPES can be used to restore data if your local Barracuda Backup Server is not currently accessible or it you are not on the same network as your local Barracuda Backup Server. This is not for data stored by the Barracuda Backup Agent. This option is used:

- For file share data only.
- To restore data directly from the Barracuda Cloud Storage.

Programs such as FileZilla for Windows or Linux and Transmit for Mac OS X work well.

To use FTPES to restore data:

1. Download, install and launch an FTPES client.
2. Connect to the server/host `restore.barracuda.com`
3. Your account must have administrator rights to restore files. The username and password are the same as those used to access the Barracuda Backup Web interface.
4. Select the FTPES protocol and standard port 21
5. Upon connection, you will be given a listing of directories. Follow the directory structure to the date when you would like to restore your data. Past those directories, you will then be shown the servers that are backed up. After servers, you will be presented with each share that you backed up on that server. Now you can find the data you wish to restore.
6. Drag the data to restore from the connection to a location on your system. All of the data will be retrieved from the Barracuda Cloud Storage.

Using FTP

An FTP client can be used to restore data securely and quickly. This is not for data stored by the Barracuda Backup Agent. This option is used:

- For local restores of file share data only.
- Only if you are on the same network as the local Barracuda Backup Server.

Programs such as FileZilla for Windows or Linux and Transmit for Mac OS X work well.

To use FTP to restore data:

1. Download, install and launch an FTP client.
2. Your account must have administrator rights to restore files. The username and password are the same as those used to access the Barracuda Backup Web interface.
3. Enter the IP address of the local Barracuda Backup Server. Use `FTP protocol` and standard port `21`.
4. Upon connection, you will be given a listing of directories. Past those directories, you will then be shown each server that is backed up by the Barracuda Backup Server. After servers, you will be presented with each share that you backed up on that server. Now you can find the data you wish to restore.
5. Drag the data to restore from the Barracuda Backup Server connection to a location on your system. The Barracuda Backup Server will attempt to retrieve its data locally first. If some of your data is no longer local, it will automatically fetch it from an offsite storage location.

Using Windows Explorer and WebDAV

The Barracuda Backup Server supports the WebDAV protocol. Web-based Distributed Authoring and Versioning (WebDAV) allows users to access and manage documents on a remote server. This option is used:

- For file share data only.
- Only if you are on the same network as the local Barracuda Backup Server.

Most Internet browsers have a WebDav client. In the browser address bar, type **http://<Barracuda Backup Server IP Address>:8080** to connect directly to the local Barracuda Backup Server.

Windows users can restore data from the local Barracuda Backup Server using the built-in Windows Explorer as follows:

1. On a Windows system, go to My Network Places.
2. On the sidebar, click **Add Network Place** to start the wizard.
3. Select **Choose Another Network Location** and click **Next**.
4. Enter **http://<Barracuda Backup Server IP Address>:8080** and then click **Next**.
5. Your account must have administrator rights to restore files. The username and password are the same as those used to access the Barracuda Backup Web interface.
6. Follow the instructions to finish the connection.
7. Once you are connected you will be presented with a list of directories on the Barracuda Backup Server. The directories are labeled by year and include subdirectories for each month, and within each month there is a directory for each day. Each daily directory contains folders for the servers

and directory shares that are deployed on the Barracuda Backup Server. The data files that can be restored are located within each server's directory share.

8. You can select and restore files by right clicking on them or you can drag and drop files from the Barracuda Backup Server to a directory on your network or local system.

Chapter 7

Securing Your Backups

This chapter provides an overview of the security features of the Barracuda Backup Service and best practices to ensuring the security of your data.

The following topics are covered:

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<i>Barracuda Cloud Storage Standards and Protection</i>	42
<i>Backup Security and Site-to-Site Replication</i>	43
<i>Policy-Based Security</i>	44

Barracuda Backup Service Security

The Barracuda Backup Server is deployed behind your corporate firewall and is protected by the same security as your primary data sources.

Communication and Configuration

Administration and backup configuration that is set using the Barracuda Backup Service Web interface is sent to the Barracuda Backup Server via a 256-bit encrypted VPN tunnel. The Barracuda Backup Server uses HTTPS port 443 to send status updates to the Barracuda Backup Service. Data transfers are initiated by the Barracuda Backup Server rather than by Barracuda Cloud Storage or a remote Barracuda Backup Server.

Data Transmission and Storage

Data transferred between your network and Barracuda Cloud Storage or between your network and a remote Barracuda Backup Server is always encrypted. File parts are AES 256-bit symmetrically encrypted before they are stored, and they remain encrypted until a restore is requested.

Management Access

Monitor Activity

You can check the user activity page periodically for authentication attempts, changes to settings, and updates to account information. Go to the [ADMIN > User Activity](#) page to see all activity for an account, including logins and when a user has enabled or disabled replication.

Restrict Logins by IP Address

You can restrict access to the Barracuda Backup Service to one or more IP addresses. On the [ADMIN > Users](#) page, click the Edit graphic () to edit a user. You can enter an IP address or a range.

Secure Network Access

HTTPS is always used for secure Web browser communication with the Barracuda Backup Service.

Encryption

Data transfers between the local Barracuda Backup Server and a remote Barracuda Backup Server are always encrypted. The most aggressive combination of symmetrical and asymmetrical encryption in the industry keeps your data stored in a format that nobody but you can access. The United States government recently approved 192-bit AES encryption as the preferred method for protecting top-secret information. The Barracuda Backup Service solution starts with even higher 256-bit AES encryption.

In addition, Barracuda Networks has developed a proprietary advanced digital cataloging system that:

- Breaks down your data into small pieces and tracks the changes of these parts over time, and
- Strips the original meta identifiers from your files.

As your data is transmitted to the remote Barracuda Backup Server, your symmetrically-encrypted data parts are compressed and sent over your Internet connection with an asymmetrically-encrypted key.

Barracuda Cloud Storage Standards and Protection

Storage Facility Standards

Barracuda Networks leases space in a number of Tier 3 & 4 facilities across the world. Each of these storage locations is equipped with:

- Controlled access systems requiring key-card authentication and physical check-in.
- Video-monitored access points.
- Intrusion alarms.
- Locking cabinets.
- Climate control systems.
- Waterless fire suppressant systems.
- Redundant power (generator backup, UPS, no single point of failure).
- Redundant Internet connectivity.

The Barracuda Cloud Storage infrastructure boasts high-quality RAID redundant hardware with hot-spare drives in every file server and near instant data mirroring over high-speed fiber connections between the storage locations.

Storage

In the United States, data is transmitted from Barracuda Backup Servers to one datacenter and then replicated to another. The process of replicating data begins immediately after it is copied from a Barracuda Backup Server and runs continuously. Data in the Barracuda Cloud Storage is stored in parts and no single computer in the storage system has all the parts required to reconstruct data. Each of these computer systems communicates in unison to deliver restored data securely. This diverse storage system serves to further strengthen the physical security of your data.

With this architecture, Barracuda Networks equipment can maintain up to three distinct copies of your data which can be stored in three geographically disparate locations.

Oversight

Access to Barracuda Backup Servers is limited to approved Barracuda Networks employees on an ‘as needed’ basis. Employee activity is logged and all logs are archived to an independent storage device.

Backup Security and Site-to-Site Replication

When using site-to-site replication, you need to ensure the physical security of the remote Barracuda Backup Servers. Typically the Barracuda Backup Servers are kept behind corporate firewalls and they communicate with each other using a VPN tunnel.

Policy-Based Security

Data retention policies allow you to specify the retention of selected files or broader data based on daily, weekly, monthly or annual time intervals. You can create multiple retention policies for different types of data:

- Files;
- Data backed up by the Barracuda Backup Agent (Exchange, SQL, system state); and
- Email messages.

Retention policies are the only way to purge data. Data cannot be deleted directly by a user.

Chapter 8

Administering the Barracuda Backup Service

This chapter describes how to administer your Barracuda Backup Service account.

Administrative Settings 46

Administrative Settings

Your account with Barracuda Networks gives you access to the Barracuda Backup Service and to any other Barracuda Networks services to which you have a subscription. As long as you are logged in as an administrator, you can add users that can perform administrative tasks. They will use their own user name to log in.

Managing Your Account and Adding Users

Click on **Account/Support** on the top right hand side of the Barracuda Backup Service Web interface to perform these account-related tasks that are not specific to any service:

- Add, edit and remove users, including setting their privileges and start page. When you add a user you can select the services that the user is able to access.
- Update contact and billing information for your Barracuda Networks account.
- View invoices.
- Manage services associated with your account.

Click on the **Backup Service** link on the top left hand side to go to the Barracuda Backup Service Web interface.

Edit User Settings Specific to the Barracuda Backup Service

Use the **ADMIN > Users** page to administer users that have access to the Barracuda Backup Service Web interface. This page has a link that takes you to **Account/Support** to add or remove users.

Edit users from this page by selecting a user and clicking on the Edit graphic (). You can edit the following options for a user, all of which are specific to this service:

- Receive emails with backup reports, error condition alerts, or Barracuda Backup Server software update notices.
- Restrict access to the Barracuda Backup Service Web interface to one or more IP addresses.
- Designate the user as either an **Administrator** or an **Operator** of the Barracuda Backup Service. An Administrator can create new users and manage billing information, and has full access to all of the Barracuda Backup Servers associated with the account. An Operator cannot restore data or edit accounts. Operators are limited to viewing statistics, and modifying backup configuration for selected Barracuda Backup Servers.

Verifying Your Barracuda Cloud Storage Service Plan Size

After you have successfully linked your Barracuda Backup Server, your Barracuda Cloud Storage service plan is activated. To ensure that you have a sufficient amount of offsite storage space at Barracuda Networks, it is important for you to verify that the plan size is the one you selected. View your Cloud Storage Service plan size on the **STATUS** tab of the Barracuda Backup Service Web interface.

Monitoring the Barracuda Backup Service

This chapter describes the management and monitoring tasks you can perform for the Barracuda Backup Service and covers the following topics:

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<i>Monitoring Backup Status</i>	48
<i>Backup Reports</i>	49
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<i>Shutting Down a Barracuda Backup Server</i>	50
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Viewing Back Up Statistics

The **STATUS** page provides an overview of the performance and health of your Barracuda Backup. If you have more than one Barracuda Backup Server linked to your account, you can select a specific server and view its individual statistics.

From the **STATUS** page you can view:

- Backup activity for local and offsite locations, indicating the size and the number of backup files added by date.
- Storage statistics representing the total amount of storage used by each data source type on the local Barracuda Backup Server and at Barracuda Cloud Storage as well as the number of files and messages backed up. If this system is replicating data to or from another Barracuda Backup Server, then those storage statistics appear on the **BACKUP > Replication** page on both Barracuda Backup Servers.
- Efficiency statistics show:
 - **Actual Storage:** The amount of actual storage space being used
 - **Snapshot Equivalent:** The amount of space that would be required to back up your data based on your retention policies projected over the next three years, *without* deduplication and compression
 - **Deduplication Ratio:** The overall amount of space savings with deduplication and compression compared to the snapshot equivalent. See *Deduplication for Backup Efficiency*, page 6, for details about how deduplication works.
- Status indicators for the health of the Barracuda Backup Servers, local and offsite backups, and data sources. Green shows that your servers are online and that no errors have been encountered as a result of your backup. Red indicators are displayed when a local server is offline or when errors were generated during a backup. Mouse over the indicators to see more details.
- Performance statistics for the Barracuda Backup Servers, including percentage of CPU, disk and Ethernet usage. Performance statistics displayed in red signify that the value exceeds the normal threshold. These values will fluctuate based on the amount of data that is being backed up, but if any setting remains consistently red for a long period of time, contact Barracuda Networks Technical Support.
- Storage History (if one Barracuda Backup Server is selected) displays the current, historic and actual data storage size on the local and cloud locations by date.
- Transfer History (if one Barracuda Backup Server is selected) displays the efficiency of your data transfer and the size of the file parts yet to be transferred offsite, organized by date.

Monitoring Backup Status

To check that a Barracuda Backup Server is operating correctly, select it from the list of Barracuda Backup Servers and navigate to its **STATUS** page.

You can look at the Transfer History and see the amount of bytes remaining to be transferred. If there is a large amount of data there (80 GB or more), there are a number of things to check, all under the **BACKUP** tab:

- Adjust the rate limit.
- Check the amount of data being backed up nightly to ensure the Barracuda Backup Server is doing transaction log backups for Exchange and SQL.

- Check retention policies to ensure that too much historic data is not being transferred.

You can also check the status of the all of your Barracuda Backup Servers at once by selecting Overview and going to the **STATUS** page. If the status of a Barracuda Backup Server is yellow or red then there is a problem with connectivity or the health of the Barracuda Backup Server. If you mouse over the various indicators you will see more condition details.

Backup Reports

The Barracuda Backup provides a detailed report for each back up that is run. Backup reports can be accessed from the **BACKUP > Reports** page of the Barracuda Backup Web interface. In addition, any back up process that is currently running is also displayed from the Reports page. Backup reports include details about the backup such as when the backup started, how long it took, if there were any errors or warnings, and any new, changed, or removed items. Reports also include links to each backed up file to view or download the item from the report.

If a backup is currently in progress, the **BACKUP > Reports** page will show that and allow you to cancel the backup.

User Activity Reports

The **USERS > User Activity Reports** page displays logs of activity of users accessing the Barracuda Backup Service Web interface. Logged activity includes log on authentication, changes to settings, changes to account information and more.

Managing Email Notifications

Use the **ADMIN > Users** page to send email notifications to users. Edit users from this page by selecting a user and clicking on the Edit graphic (). You can specify that a user will receive one or more of the following types of emails:

- Backup reports saying that a scheduled back up was run
- Alerts for conditions such as:
 - A Barracuda Backup Server is offline or has come online
 - A Barracuda Backup Server has not been able to communicate with Barracuda Cloud Storage (check for Internet problems)
 - A watched file rule condition has been met
 - An error has occurred in a backup
 - An error situation returned to normal and no (further) action is required.
 - You have reached the limit on your Barracuda Cloud Storage subscription plan size
- Notices of Barracuda Backup Server software updates.

The **ADMIN > Email Notifications** page allows you to specify email addresses of non-users that will receive an email when a report, alert or notice is generated. This page allows you to specify any email address (in some cases, your reseller), not only the email address of a user associated with your account. You can also see the users that are receiving any type of email notification and edit those users in a similar way to the **ADMIN > Users** page.

Shutting Down a Barracuda Backup Server

You can remotely reboot or shut down a Barracuda Backup Server by logging into its local Web interface. Type the IP address of the Barracuda Backup Server in a Web browser and log in using your Barracuda Networks account.

You can also perform a safe shutdown of a Barracuda Backup Server by pressing the power button on the front of the device. This will issue a shutdown command to all system and service processes before the device powers down.

Do not push the power button down for more than a couple of seconds. Holding it for five seconds or longer causes an immediate hard shutdown. This interrupts running processes and the Barracuda Backup Server will power off before unmounting the file system.

Wiping a Barracuda Backup Server

You can wipe a Barracuda Backup Server by logging into its local Web interface. Type the IP address of the Barracuda Backup Server in a Web browser and log in using your Barracuda Networks account.

Wiping a Barracuda Backup Server unlinks it from your account and puts all data and configuration information into a queue to be purged from Barracuda Cloud Storage. The wipe feature also deletes the contents of the local databases on the Barracuda Backup Server, moves the binary data on the Barracuda Backup Server into a temporary storage location on the system, and then shuts it down. The next time the Barracuda Backup Server is booted the binary data that has been moved will be deleted.

Front Panel Indicator Lights

The Barracuda Backup has indicator lights that indicate power and disk activity.

Figure 9.1: Barracuda Backup front panel indicator lights



Appendix A

About the Hardware

Hardware Compliance

This section contains compliance information for the Barracuda Backup Service hardware.



Notice for the USA

Compliance Information Statement (Declaration of Conformity Procedure) DoC FCC Part 15: This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received including interference that may cause undesired operation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and the receiver.
 - Plug the equipment into an outlet on a circuit different from that of the receiver.
 - Consult the dealer on an experienced radio/ television technician for help.

Notice for Canada

This apparatus complies with the Class B limits for radio interference as specified in the Canadian Department of Communication Radio Interference Regulations.



Notice for Europe (CE Mark)

This product is in conformity with the Council Directive 89/336/EEC, 92/31/EEC (EMC).

Appendix B

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